

THE PENDING CLAIMS:

1. (Previously Presented) A thermoplastic composite panel, comprising a base transparent thermoplastic layer, conducting the light, having a thickness generally in the range 3-40 mm and a diffusing light layer, having a thickness in the range 10-1500 micron, placed on one or both surfaces of the base layer, said diffusing layer constituted by thermoplastic material containing barium sulphate in amount by weight, expressed as per cent ratio on the total weight of the diffusing layer, in the range 0.01-2%, the barium sulphate having average particle sizes in the range 0.1-50 micron, the composite sides being at least ≥ 10 cm, said composite having one or more edge lit, the composite area being greater than 100 cm².

2. (Original) A panel according to claim 1, wherein the composite panel contains only one diffusing layer.

3. (Previously Presented) A panel according to claim 1, wherein a source of the light is placed on two opposite edges.

4. (Previously Presented) A panel according to claim 1, wherein the thermoplastic material of which the base layer and the diffusing layer containing barium sulphate are constituted, is selected from a (meth)acrylic (co)polymer, polycarbonate, polystyrene, PET, copolyesters constituted by glycol modified PET chosen from the group consisting of diethylenglycol, butandiol, hexandiol and 1, 4-cyclohexane dimethanol or mixtures of PET with the copolymers.

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5. (Original) A panel according to claim 4 wherein the thermoplastic (meth)acrylic (co)polymer is constituted by an alkyl (meth)acrylate homopolymer or by a copolymer derived from an alkyl (meth)acrylate with at least one monomer having one or more ethylenic unsaturations copolymerizable with the alkyl (meth)acrylate.

6. (Previously Presented) A panel according to claim 5 wherein the alkyl (meth)acrylate is selected from the compounds wherein the alkyl group has from 1 to 8 carbons.

7. (Previously Presented) A panel according to claim 4, wherein the thermoplastic polymer is constituted by methyl methacrylate homo-polymers or methylmethacrylate copolymers with (meth)acrylic esters or (meth) acrylic acids.

8. (Previously Presented) A panel according to claim 7 wherein the thermoplastic polymer is constituted by methylmethacrylate/alkyl acrylate copolymers.

9. (Previously Presented) A panel according to claim 5 wherein the (meth)acrylic thermoplastic (co)polymer comprises from 70 to 100% by weight of alkyl methacrylate and from 0 to 30% by weight of one or more comonomers containing one or more ethylenic unsaturations, said comonomers being copolymerizable with the alkyl methacrylate.

10. (Previously Presented) A panel according to claim 1, wherein the composite panel is obtained by coextrusion, by casting, or by compression molding or by coupling of a film in calendaring, or optionally by gluing.

11. (Original) A panel according to claim 10, wherein the composite is prepared by coextrusion of the base sheet of thermoplastic polymer and of the diffusing layer of thermoplastic polymer containing the barium sulphate, or by compression molding of the thermoplastic polymer layer containing barium sulphate, obtained by extrusion, on a base sheet of thermoplastic polymer, said sheet obtained by extrusion or casting.

12. (Previously Presented) A panel according to claim 1, wherein one or more edges of the composite panel, on which the source of light is not positioned, a reflecting film is placed.

13. (Previously Presented) A panel according to claim 1, wherein the thermoplastic polymer of the base sheet can contain particles of substances diffusing light, both of polymeric and inorganic type.

14. (Previously Presented) A panel according to claim 13 wherein the polymeric particle average sizes are in the range 0.1-200 micron, the amount is in the range 5-1000 ppm.

15. (Previously Presented) A panel according to claim 1 wherein on the free surface of the composite base sheet parallel adhesive bands are present,

having a width from 0.5 mm to 20 mm, placed at a distance the one from the other within the indicated limits, said distance being also greater than the band width.

16. (Previously Presented) Luminous signs comprising the composite panel of claim 1.

17. (Previously Presented) A panel according to claim 1, wherein the thermoplastic polymer is constituted by methyl methacrylate homo-polymers.

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